

Title (en)
HIGH-STRENGTH SPUN YARN PRODUCED FROM CONTINUOUS HIGH-MODULUS FILAMENTS, AND PROCESS FOR MAKING SAME

Title (de)
HOCHFESTER FASERGARN AUS UNUNTERBROCHENEN HOCHMODULFILAMENTEN UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)
FILE DE FIBRES HAUTE RESISTANCE PRODUIT A PARTIR DE FILAMENTS CONTINUS DE MODULE ELEVE, ET PROCEDE DE FABRICATION DE CE FILE

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Application
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Abstract (en)
[origin: US2006026945A1] A process for making a high-strength spun yarn begins by feeding one or more tows of substantially uncrimped continuous filaments of high-modulus material having a tensile modulus exceeding about 20x10⁶ psi through a high-speed stretch-breaking apparatus operating at low total draft ratio (preferably about 2.0) to break the filaments into high-modulus staple fibers having an average length in the range of about 5 to 6 inches. The tows advantageously are heavy, for example, having a denier of about 25,000 to about 500,000. Following the stretch-breaking step, the staple fibers are collected in sliver cans, and the staple fibers are advanced from the sliver cans to a spinning machine, where the fibers are spun into yarn. An important aspect of the invention is that no intermediate processes are performed between the stretch-breaking and spinning processes, which minimizes disruption of the alignment of and damage to the staple fibers.

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